DDR3 SDRAM Memory

Product Guide

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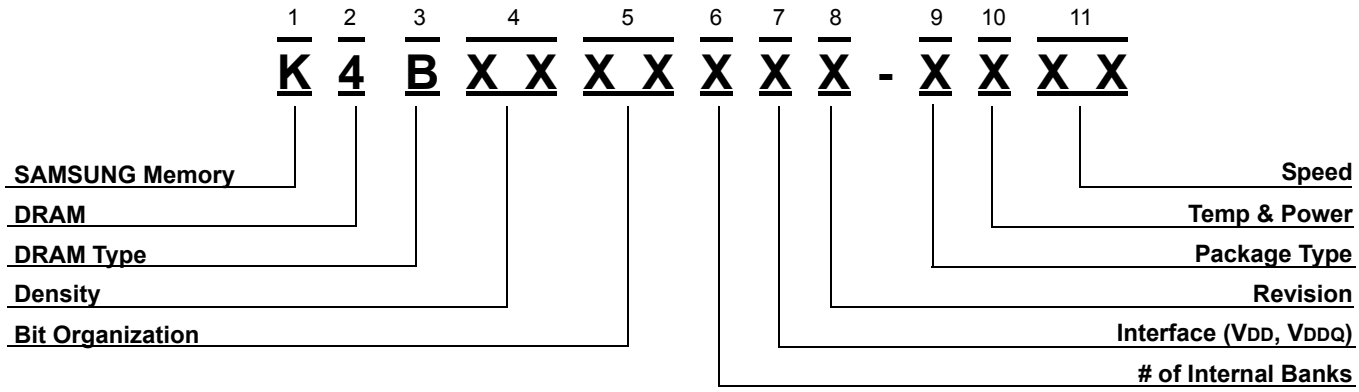
1. DDR3 SDRAM MEMORY ORDERING INFORMATION



1. SAMSUNG Memory : K

2. DRAM : 4

3. DRAM Type

B : DDR3 SDRAM

4. Density

51 : 512Mb
1G : 1Gb
2G : 2Gb
4G : 4Gb

5. Bit Organization

04 : x 4
08 : x 8
16 : x16

6. # of Internal Banks

3 : 4 Banks
4 : 8 Banks
5 : 16 Banks

7. Interface (VDD, VDDQ)

6 : SSTL (1.5V, 1.5V)

8. Revision

M : 1st Gen.
A : 2nd Gen.
B : 3rd Gen.
C : 4th Gen.
D : 5th Gen.
E : 6th Gen.
F : 7th Gen.
G : 8th Gen.
H : 9th Gen.

9. Package Type

Z : FBGA (Lead-free)
H : FBGA (Halogen-free & Lead-free)
J : FBGA (Lead-free, DDP)
M : FBGA (Halogen-free & Lead-free, DDP)
B : FBGA (Halogen-free & Lead-free, Flip Chip)

10. Temp & Power

C : Commercial Temp.(0°C ~ 85°C) & Normal Power
Y : Commercial Temp.(0°C ~ 85°C) & Low VDD(1.35V)

11. Speed

F7 : DDR3-800 (400MHz @ CL=6, tRCD=6, tRP=6)
F8 : DDR3-1066 (533MHz @ CL=7, tRCD=7, tRP=7)
H9 : DDR3-1333 (667MHz @ CL=9, tRCD=9, tRP=9)
K0 : DDR3-1600 (800MHz @ CL=11, tRCD=11, tRP=11)
MA : DDR3-1866 (933MHz @ CL=13, tRCD=13, tRP=13)

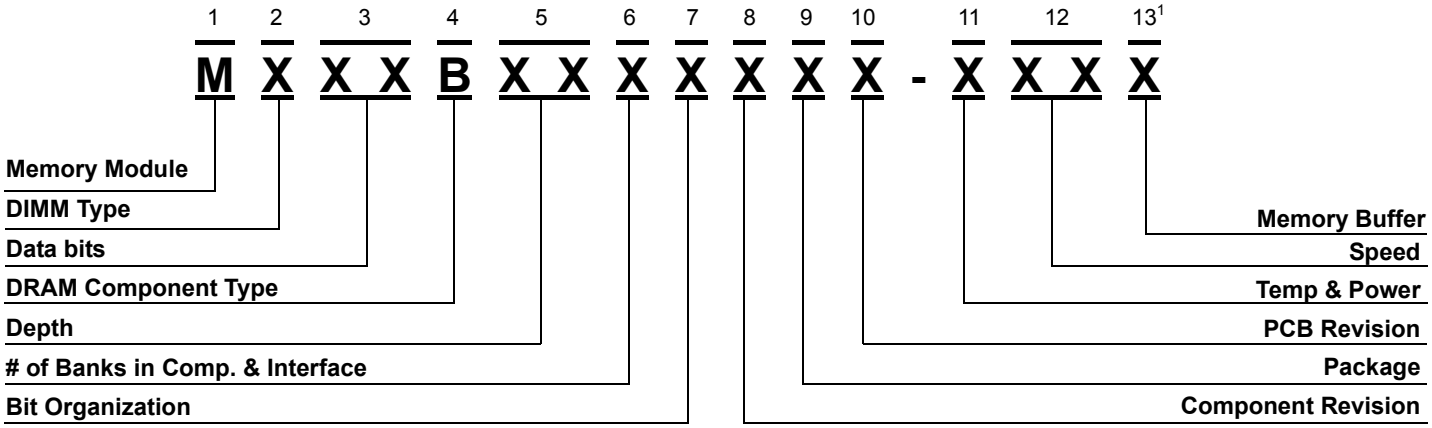
2. DDR3 SDRAM Component Product Guide

Density	Banks	Part Number	Package & Power, Temp. & Speed	Org.	VDD Voltage[1]	PKG	Avail.	NOTE
1Gb F-die	8Banks	K4B1G0446F	HCF8/H9/K0	256M x 4	1.5V	78 ball FBGA	Now	
		K4B1G0846F	HCF8/H9/K0	128M x 8				
		K4B1G0446F	HYF8/H9	256M x 4	1.35V			
		K4B1G0846F	HYF8/H9	128M x 8				
1Gb G-die	8Banks	K4B1G0446G	BCF8/H9/K0/MA	256M x 4	1.5V	78 ball FBGA	Now	
		K4B1G0846G	BCF8/H9/K0/MA	128M x 8				
		K4B1G0446G	BYF8/H9/K0	256M x 4	1.35V			
		K4B1G0846G	BYF8/H9/K0	128M x 8				
2Gb C-die	8Banks	K4B2G0446C	HCF8/H9/K0	512M x 4	1.5V	78 ball FBGA	Now	
		K4B2G0846C	HCF8/H9/K0	256M x 8				
		K4B2G0446C	HYF8/H9	512M x 4	1.35V			
		K4B2G0846C	HYF8/H9	256M x 8				
2Gb D-die	8Banks	K4B2G0446D	HCF8/H9/K0/MA	512M x 4	1.5V	78 ball FBGA	Now	
		K4B2G0846D	HCF8/H9/K0/MA	256M x 8				
		K4B2G0446D	HYF8/H9/K0	512M x 4	1.35V			
		K4B2G0846D	HYF8/H9/K0	256M x 8				
4Gb A-die	8Banks	K4B4G0446A	HCF8/H9/K0	1G x 4	1.5V	78 ball FBGA	Now	
		K4B4G0846A	HCF8/H9/K0	512M x 8				
		K4B4G0446A	HYF8/H9/K0	1G x 4	1.35V			
		K4B4G0846A	HYF8/H9/K0	512M x 8				
4Gb B-die	8Banks	K4B4G0446B	HCF8/H9/K0/MA	1G x 4	1.5V	78 ball FBGA	3Q'11	
		K4B4G0846B	HCF8/H9/K0/MA	512M x 8				
		K4B4G0446B	HYF8/H9/K0	1G x 4	1.35V			
		K4B4G0846B	HYF8/H9/K0	512M x 8				
DDP 4Gb C-die	8Banks	K4B4G0446C	MCF7/F8/H9	1G x 4	1.5V	78 ball FBGA	Now	
		K4B4G0846C	MCF7/F8/H9	512M x 8				
DDP 4Gb D-die	8Banks	K4B4G0446D	MCF8/H9/K0/MA	1G x 4	1.5V	78 ball FBGA	2Q'11	
		K4B4G0846D	MCF8/H9/K0	512M x 8				
		K4B4G0446D	MYF8/H9/K0	1G x 4	1.35V			
		K4B4G0846D	MYF8/H9/K0	512M x 8				

* **NOTE**

1. 1.35V product is 1.5V operatable.

3. DDR3 SDRAM Module Ordering Information


1 2 3 4 5 6 7 8 9 10 11 12 13[1]
M X X X B X X X X X X X - X X X X
Memory Module
DIMM Type
Data bits
DRAM Component Type
Depth
# of Banks in Comp. & Interface
Bit Organization
Memory Buffer
Speed
Temp & Power
PCB Revision
Package
Component Revision

1. Memory Module : M

2. DIMM Type

3 : DIMM
4 : SODIMM

3. Data Bits

71 : x64 204pin Unbuffered SODIMM
78 : x64 240pin Unbuffered DIMM
86 : x72 240pin LR DIMM
91 : x72 240pin ECC unbuffered DIMM
92 : x72 240pin VLP Registered DIMM
93 : x72 240pin Registered DIMM

4. DRAM Component Type

B : DDR3 SDRAM (1.5V VDD)

5. Depth

32 : 32M	33 : 32M (for 128Mb/512Mb)
64 : 64M	65 : 64M (for 128Mb/512Mb)
28 : 128M	29 : 128M (for 128Mb/512Mb)
56 : 256M	57 : 256M (for 512Mb/2Gb)
51 : 512M	52 : 512M (for 512Mb/2Gb)
1G: 1G	1K: 1G (for 2Gb)
2G: 2G	2K: 2G (for 2Gb)
4G: 4G	

6. # of Banks in comp. & Interface

7 : 8Banks & SSTL-1.5V

7. Bit Organization

0 : x 4
3 : x 8
4 : x16

8. Component Revision

M : 1st Gen.	A : 2nd Gen.
B : 3rd Gen.	C : 4th Gen.
D : 5th Gen.	E : 6th Gen.
F : 7th Gen.	G : 8th Gen.

9. Package

Z : FBGA(Lead-free)
H : FBGA(Lead-free & Halogen-free)
J : FBGA(Lead-free, DDP)
M : FBGA(Lead-free & Halogen-free, DDP)
B : FBGA (Halogen-free & Lead-free, Flip Chip)

10. PCB Revision

0 : None	1 : 1st Rev.
2 : 2nd Rev.	3 : 3rd Rev.
4 : 4th Rev.	S : Reduced Layer

11. Temp & Power

C : Commercial Temp.(0°C ~ 85°C) & Normal Power
Y : Commercial Temp.(0°C ~ 85°C) & Low VDD(1.35V)

12. Speed[2]

F7 : DDR3-800 (400MHz @ CL=6, tRCD=6, tRP=6)
F8 : DDR3-1066 (533MHz @ CL=7, tRCD=7, tRP=7)
H9 : DDR3-1333 (667MHz @ CL=9, tRCD=9, tRP=9)
K0 : DDR3-1600 (800MHz @ CL=11, tRCD=11, tRP=11)
MA: DDR3-1866 (933MHz @ CL=13, tRCD=13, tRP=13)

13. Memory Buffer

0 : Inphi iMB02-GS02A
1 : IDT MB3 B0

NOTE:
1. Only used for LRDIMM
2. PC3-6400(DDR3-800),PC3-8500(DDR3-1066), PC3-10600(DDR3-1333), PC3-12800(DDR3-1600) PC3-14900(DDR3-1866)

4. DDR3 SDRAM Module Product Guide

4.1 240Pin DDR3 Unbuffered DIMM (1.5V Product)

240Pin DDR3 Unbuffered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 64	1GB	M378B2873FH0	CF8/H9/K0	A(1Rx8)	128M x 8 * 8 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M378B2873GB0	CF8/H9/K0/MA		128M x 8 * 8 pcs	1Gb	G-die					Now	
128Mx 72	1GB	M391B2873FH0	CF8/H9/K0	D(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M391B2873GB0	CF8/H9/K0/MA		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 64	2GB	M378B5673FH0	CF8/H9/K0	B(2Rx8)	128M x 8 * 16 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M378B5673GB0	CF8/H9/K0/MA		128M x 8 * 16 pcs	1Gb	G-die					Now	
		M378B5773CH0	CF8/H9/K0	A(1Rx8)	256M x 8 * 8 pcs	2Gb	C-die	8	1			Now	
		M378B5773DH0	CF8/H9/K0/MA		256M x 8 * 8 pcs	2Gb	D-die					Now	
256Mx 72	2GB	M391B5673FH0	CF8/H9/K0	E(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M391B5773CH0	CF8/H9/K0	D(1Rx8)	256M x 8 * 9 pcs	2Gb	C-die	8	1			Now	
		M391B5773DH0	CF8/H9/K0/MA		256M x 8 * 9 pcs	2Gb	D-die					Now	
512Mx 64	4GB	M378B5273CH0	CF8/H9/K0	B(2Rx8)	256M x 8 * 16 pcs	2Gb	C-die	8	2	78 ball FBGA	30mm	Now	
		M378B5273DH0	CF8/H9/K0/MA		256M x 8 * 16 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M391B5273CH0	CF8/H9/K0	E(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2	78 ball FBGA	30mm	Now	
		M391B5273DH0	CF8/H9/K0/MA		256M x 8 * 18 pcs	2Gb	D-die					Now	
1Gx 64	8GB	M378B1G73AH0	CF8/H9/K0	B(2Rx8)	512M x 8 * 16 pcs	4Gb	A-die	8	2	78 ball FBGA	30mm	Now	
		M378B1G73BH0	CF8/H9/K0/MA		512M x 8 * 16 pcs	4Gb	B-die					2Q'11	
1Gx 72	8GB	M391B1G73AH0	CF8/H9/K0	E(2Rx8)	512M x 8 * 18 pcs	4Gb	A-die	8	2	78 ball FBGA	30mm	Now	
		M391B1G73BH0	CF8/H9/K0/MA		512M x 8 * 18 pcs	4Gb	B-die					2Q'11	

4.2 240Pin DDR3 Unbuffered DIMM (1.35V Product)

240Pin DDR3 Unbuffered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 72	1GB	M391B2873FH0	YF8/H9	D(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M391B2873GB0	YF8/H9/K0		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 72	2GB	M391B5673FH0	YF8/H9	E(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M391B5773CH0	YF8/H9	D(1Rx8)	256M x 8 * 9 pcs	2Gb	C-die	8	1			Now	
		M391B5773DH0	YF8/H9/K0		256M x 8 * 9 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M391B5273CH0	YF8/H9	E(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2	78 ball FBGA	30mm	Now	
		M391B5273DH0	YF8/H9/K0		256M x 8 * 18 pcs	2Gb	D-die					Now	
1Gx 72	8GB	M391B1G73AH0	YF8/H9	E(2Rx8)	512M x 8 * 18 pcs	4Gb	A-die	8	2	78 ball FBGA	30mm	Now	
		M391B1G73BH0	YF8/H9/K0		512M x 8 * 18 pcs	4Gb	B-die					2Q'11	

* **NOTE** : 1.35V product is 1.5V operatable.

4.3 204Pin DDR3 SoDIMM (1.5V Product)

204Pin DDR3 SODIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 64	1GB	M471B2873FHS	CF8/H9/K0	B(1Rx8)	128M x 8 * 8 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M471B2873GB0	CF8/H9/K0/MA		128M x 8 * 8 pcs	1Gb	G-die					Now	
256Mx 64	2GB	M471B5673FH0	CF8/H9/K0	F(2Rx8)	128M x 8 * 16 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M471B5673GB0	CF8/H9/K0/MA		128M x 8 * 16 pcs	1Gb	G-die					Now	
		M471B5773CHS	CF8/H9/K0	B(1Rx8)	256M x 8 * 8 pcs	2Gb	C-die	8	1	78 ball FBGA	30mm	Now	
		M471B5773DH0	CF8/H9/K0/MA		256M x 8 * 8 pcs	2Gb	D-die					Now	
512Mx 64	4GB	M471B5273CH0	CF8/H9/K0	F(2Rx8)	256M x 8 * 16 pcs	2Gb	C-die	8	2	78 ball FBGA	30mm	Now	
		M471B5273DH0	CF8/H9/K0/MA		256M x 8 * 16 pcs	2Gb	D-die					Now	
1Gx 64	8GB	M471B1G73AH0	CF8/H9	F(2Rx8)	512M x 8 * 16 pcs	4Gb	A-die	8	2	78 ball FBGA	30mm	Now	
		M471B1G73BH0	CF8/H9/K0/MA		512M x 8 * 16 pcs	4Gb	B-die					2Q'11	

4.4 204Pin DDR3 SoDIMM (1.35V Product)

204Pin DDR3 SODIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 64	1GB	M471B2873FHS	YF8/H9	B(1Rx8)	128M x 8 * 8 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M471B2873GB0	YF8/H9/K0		128M x 8 * 8 pcs	1Gb	G-die					Now	
256Mx 64	2GB	M471B5673FH0	YF8/H9	F(2Rx8)	128M x 8 * 16 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M471B5673GB0	YF8/H9/K0		128M x 8 * 16 pcs	1Gb	G-die					Now	
		M471B5773CHS	YF8/H9	B(1Rx8)	256M x 8 * 8 pcs	2Gb	C-die	8	1			Now	
		M471B5773DH0	YF8/H9/K0		256M x 8 * 8 pcs	2Gb	D-die					Now	
512Mx 64	4GB	M471B5273CH0	YF8/H9	F(2Rx8)	256M x 8 * 16 pcs	2Gb	C-die	8	2	78 ball FBGA	30mm	Now	
		M471B5273DH0	YF8/H9/K0		256M x 8 * 16 pcs	2Gb	D-die					Now	
1Gx 64	8GB	M471B1G73AH0	YF8/H9	F(2Rx8)	512M x 8 * 16 pcs	4Gb	A-die	8	2	78 ball FBGA	30mm	Now	
		M471B1G73BH0	YF8/H9/K0		512M x 8 * 16 pcs	4Gb	B-die					2Q'11	

* **NOTE** : 1.35V product is 1.5V operatable.

4.5 240Pin DDR3 Registered DIMM (1.5V Product)

240Pin DDR3 Registered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 72	1GB	M393B2873FH0	CF8/H9/K0	A(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M393B2873GB0	CF8/H9/K0/MA		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 72	2GB	M393B5673FH0	CF8/H9/K0	B(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M393B5673GB0	CF8/H9/K0/MA		128M x 8 * 18 pcs	1Gb	G-die					Now	
		M393B5670FH0	CF8/H9/K0	C(1Rx4)	256M x 4 * 18 pcs	1Gb	F-die	8	1			Now	
		M393B5670GB0	CF8/H9/K0/MA		256M x 4 * 18 pcs	1Gb	G-die					Now	
		M393B5773CH0	CF8/H9/K0	A(1Rx8)	256M x 8 * 9 pcs	2Gb	C-die	8	1			Now	
		M393B5773DH0	CF8/H9/K0/MA		256M x 8 * 9 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M393B5173FH0	CF8/H9/K0	H(4Rx8)	128M x 8 * 36 pcs	1Gb	F-die	8	4	78 ball FBGA	30mm	Now	
		M393B5173GB0	CF8/H9		128M x 8 * 36 pcs	1Gb	G-die					Now	
		M393B5170FH0	CF8/H9/K0	E(2Rx4)	256M x 4 * 36 pcs	1Gb	F-die	8	2			Now	
		M393B5170GB0	CF8/H9/K0/MA		256M x 4 * 36 pcs	1Gb	G-die					Now	
		M393B5273CH0	CF8/H9/K0	B(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2			Now	
		M393B5273DH0	CF8/H9/K0/MA		256M x 8 * 18 pcs	2Gb	D-die					Now	
		M393B5270CH0	CF8/H9/K0	C(1Rx4)	512M x 4 * 18 pcs	2Gb	C-die	8	1			Now	
		M393B5270DH0	CF8/H9/K0/MA		512M x 4 * 18 pcs	2Gb	D-die					Now	
1Gx 72	8GB	M393B1K73CH0	CF8/H9	H(4Rx8)	256M x 8 * 36 pcs	2Gb	C-die	8	4	78 ball FBGA	30mm	Now	
		M393B1K73DH0	CF8/H9		256M x 8 * 36 pcs	2Gb	D-die					Now	
		M393B1K70CH0	CF8/H9/K0	E(2Rx4)	512M x 4 * 36 pcs	2Gb	C-die	8	2			Now	
		M393B1K70DH0	CF8/H9/K0/MA		512M x 4 * 36 pcs	2Gb	D-die					Now	
2Gx 72	16GB	M393B2K70CM0	CF8/H9	AB(4Rx4)	DDP 1G x 4 * 36 pcs	2Gb	C-die	8	4	78 ball FBGA	30mm	Now	
		M393B2K70DM0	CF8/H9		DDP 1G x 4 * 36 pcs	2Gb	D-die					Now	
		M393B2G70AH0	CF8/H9	E(2Rx4)	1G x 4 * 36 pcs	4Gb	A-die	8	2			Now	
		M393B2G70BH0	CF8/H9		1G x 4 * 36 pcs	4Gb	B-die					2Q'11	
		M393B2G73AH0	CF8/H9	H(4Rx8)	512M x 8 * 36 pcs	4Gb	A-die	8	4			Now	
		M393B2G73BH0	CF8/H9		512M x 8 * 36 pcs	4Gb	B-die					2Q'11	
4Gx 72	32GB	M393B4G70AM0	CF8/H9	AB(4Rx4)	DDP 2G x 4 * 36 pcs	4Gb	A-die	8	4	78 ball FBGA	30mm	Now	
		M393B4G70BM0	CF8/H9		DDP 2G x 4 * 36 pcs	4Gb	B-die					2Q'11	

4.6 240Pin DDR3 Registered DIMM (1.35V Product)

240Pin DDR3 Registered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 72	1GB	M393B2873FH0	YF8/H9	A(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	30mm	Now	
		M393B2873GB0	YF8/H9/K0		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 72	2GB	M393B5673FH0	YF8/H9	B(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	30mm	Now	
		M393B5673GB0	YF8/H9/K0		128M x 8 * 18 pcs	1Gb	G-die					Now	
		M393B5670FH0	YF8/H9	C(1Rx4)	256M x 4 * 18 pcs	1Gb	F-die	8	1			Now	
		M393B5670GB0	YF8/H9/K0		256M x 4 * 18 pcs	1Gb	G-die					Now	
		M393B5773CH0	YF8/H9	A(1Rx8)	256M x 8 * 9 pcs	2Gb	C-die	8	1			Now	
		M393B5773DH0	YF8/H9/K0		256M x 8 * 9 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M393B5173FH0	YF8/H9	H(4Rx8)	128M x 8 * 36 pcs	1Gb	F-die	8	4	78 ball FBGA	30mm	Now	
		M393B5173GB0	YF8/H9		128M x 8 * 36 pcs	1Gb	G-die					Now	
		M393B5170FH0	YF8/H9	E(2Rx4)	256M x 4 * 36 pcs	1Gb	F-die	8	2			Now	
		M393B5170GB0	YF8/H9/K0		256M x 4 * 36 pcs	1Gb	G-die					Now	
		M393B5273CH0	YF8/H9	B(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2			Now	
		M393B5273DH0	YF8/H9/K0		256M x 8 * 18 pcs	2Gb	D-die					Now	
		M393B5270CH0	YF8/H9	C(1Rx4)	512M x 4 * 18 pcs	2Gb	C-die	8	1			Now	
		M393B5270DH0	YF8/H9/K0		512M x 4 * 18 pcs	2Gb	D-die					Now	
1Gx 72	8GB	M393B1K73CH0	YF8/H9	H(4Rx8)	256M x 8 * 36 pcs	2Gb	C-die	8	4	78 ball FBGA	30mm	Now	
		M393B1K73DH0	YF8/H9		256M x 8 * 36 pcs	2Gb	D-die					Now	
		M393B1K70CH0	YF8/H9	E(2Rx4)	512M x 4 * 36 pcs	2Gb	C-die	8	2			Now	
		M393B1K70DH0	YF8/H9/K0		512M x 4 * 36 pcs	2Gb	D-die					Now	
2Gx 72	16GB	M393B2K70CM0	YF8/H9	AB(4Rx4)	DDP 1G x 4 * 36 pcs	2Gb	C-die	8	4	78 ball FBGA	30mm	Now	
		M393B2K70DM0	YF8/H9		DDP 1G x 4 * 36 pcs	2Gb	D-die					Now	
		M393B2G70AH0	YF8/H9	E(2Rx4)	1G x 4 * 36 pcs	4Gb	A-die	8	2			Now	
		M393B2G70BH0	YF8/H9/K0		1G x 4 * 36 pcs	4Gb	B-die					2Q'11	
		M393B2G73AH0	YF8/H9	H(4Rx8)	512M x 8 * 36 pcs	4Gb	A-die	8	4			Now	
		M393B2G73BH0	YF8/H9		512M x 8 * 36 pcs	4Gb	B-die					2Q'11	
4Gx 72	32GB	M393B4G70AM0	YF8/H9	AB(4Rx4)	DDP 2G x 4 * 36 pcs	4Gb	A-die	8	4	78 ball FBGA	30mm	Now	
		M393B4G70BM0	YF8/H9	AB(4Rx4)	DDP 2G x 4 * 36 pcs	4Gb	B-die					2Q'11	

* **NOTE** : 1.35V product is 1.5V operatable.

4.7 240Pin DDR3 VLP Registered DIMM (1.5V Product)

240Pin DDR3 VLP Registered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 72	1GB	M392B2873FH0	CF8/H9	K(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	18.75mm	Now	
		M392B2873GB0	CF8/H9/K0/MA		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 72	2GB	M392B5673FH0	CF8/H9	L(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B5673GB0	CF8/H9/K0/MA		128M x 8 * 18 pcs	1Gb	G-die					Now	
		M392B5670FH0	CF8/H9	M(1Rx4)	256M x 4 * 18 pcs	1Gb	F-die	8	1			Now	
		M392B5670GB0	CF8/H9/K0/MA		256M x 4 * 18 pcs	1Gb	G-die					Now	
		M392B5773CH0	CF8/H9/K0	K(1Rx8)	256M x 8 * 9 pcs	2Gb	C-die	8	1			Now	
		M392B5773DH0	CF8/H9/K0/MA		256M x 8 * 9 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M392B5170FM0	CF8/H9	N(2Rx4)	DDP 512M x 4 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B5273CH0	CF8/H9/K0	L(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2				
		M392B5273DH0	CF8/H9/K0/MA		256M x 8 * 18 pcs	2Gb	D-die					Now	
		M392B5270CH0	CF8/H9/K0	M(1Rx4)	512M x 4 * 18 pcs	2Gb	C-die	8	1			Now	
		M392B5270DH0	CF8/H9/K0/MA		512M x 4 * 18 pcs	2Gb	D-die					Now	
1Gx 72	8GB	M392B1K73CM0	CF8/H9	V(4Rx8)	DDP 512M x 8 * 18 pcs	2Gb	C-die	8	4	78 ball FBGA	18.75mm	Now	
		M392B1K73DM0	CF8/H9		DDP 512M x 8 * 18 pcs	2Gb	D-die					Now	
		M392B1K70CM0	CF8/H9/K0	N(2Rx4)	DDP 1G x 4 * 18 pcs	2Gb	C-die	8	2			Now	
		M392B1K70DM0	CF8/H9/K0/MA		DDP 1G x 4 * 18 pcs	2Gb	D-die					Now	
		M392B1G73BH0	CF8/H9/K0/MA	L(1Rx8)	512M x8 * 18 pcs	4Gb	B-die	8	1			2Q'11	
		M392B1G70BH0	CF8/H9/K0/MA	M(1Rx4)	1G x4 * 18 pcs	4Gb	B-die	8	1				
2Gx 72	16GB	M392B2G70AM0	CF8/H9	N(2Rx4)	DDP 2G x4 * 18 pcs	4Gb	A-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B2G70BM0	CF8/H9/K0/MA		DDP 2G x4 * 18 pcs	4Gb	B-die					2Q'11	
		M392B2G73AM0	CF8/H9	V(4Rx8)	DDP 1G x8 * 18 pcs	4Gb	A-die	8	4			Now	
		M392B2G73BM0	CF8/H9		DDP 1G x8 * 18 pcs	4Gb	B-die					2Q'11	

4.8 240Pin DDR3 VLP Registered DIMM (1.35V Product)

240Pin DDR3 VLP Registered DIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
128Mx 72	1GB	M392B2873FH0	YF8/H9	K(1Rx8)	128M x 8 * 9 pcs	1Gb	F-die	8	1	78 ball FBGA	18.75mm	Now	
		M392B2873GB0	YF8/H9/K0		128M x 8 * 9 pcs	1Gb	G-die					Now	
256Mx 72	2GB	M392B5673FH0	YF8/H9	L(2Rx8)	128M x 8 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B5673GB0	YF8/H9/K0		128M x 8 * 18 pcs	1Gb	G-die					Now	
		M392B5670FH0	YF8/H9	M(1Rx4)	256M x 4 * 18 pcs	1Gb	F-die	8	1			Now	
		M392B5670GB0	YF8/H9/K0		256M x 4 * 18 pcs	1Gb	G-die					Now	
		M392B5773CH0	YF8/H9	K(1Rx8)	512M x 4 * 9 pcs	2Gb	C-die	8	1			Now	
		M392B5773DH0	YF8/H9/K0		512M x 4 * 9 pcs	2Gb	D-die					Now	
512Mx 72	4GB	M392B5170FM0	YF8/H9	N(2Rx4)	DDP 512M x 4 * 18 pcs	1Gb	F-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B5273CH0	YF8/H9	L(2Rx8)	256M x 8 * 18 pcs	2Gb	C-die	8	2				
		M392B5273DH0	YF8/H9/K0		256M x 8 * 18 pcs	2Gb	D-die					Now	
		M392B5270CH0	YF8/H9	M(1Rx4)	512M x 4 * 18 pcs	2Gb	C-die	8	1			Now	
		M392B5270DH0	YF8/H9/K0		512M x 4 * 18 pcs	2Gb	D-die					Now	
1Gx 72	8GB	M392B1K73CM0	YF8/H9	V(4Rx8)	DDP 512M x 8 * 18 pcs	2Gb	C-die	8	4	78 ball FBGA	18.75mm	Now	
		M392B1K73DM0	YF8/H9		DDP 512M x 8 * 18 pcs	2Gb	D-die					Now	
		M392B1K70CM0	YF8/H9	N(2Rx4)	DDP 1G x 4 * 18 pcs	2Gb	C-die	8	2			Now	
		M392B1K70DM0	YF8/H9/K0		DDP 1G x 4 * 18 pcs	2Gb	D-die					Now	
		M392B1G73BH0	YF8/H9/K0	L(1Rx8)	512M x8 * 18 pcs	4Gb	B-die	8	1			2Q'11	
		M392B1G70BH0	YF8/H9/K0	M(1Rx4)	1G x4 * 18 pcs	4Gb	B-die	8	1				
2Gx 72	16GB	M392B2G70AM0	YF8/H9	N(2Rx4)	DDP 2G x4 * 18 pcs	4Gb	A-die	8	2	78 ball FBGA	18.75mm	Now	
		M392B2G70BM0	YF8/H9/K0		DDP 2G x4 * 18 pcs	4Gb	B-die					2Q'11	
		M392B2G73AM0	YF8/H9	V(4Rx8)	DDP 1G x8 * 18 pcs	4Gb	A-die	8	4			Now	
		M392B2G73BM0	YF8/H9		DDP 1G x8 * 18 pcs	4Gb	B-die					2Q'11	

* **NOTE** : 1.35V product is 1.5V operatable.

4.9 240Pin DDR3 LRDIMM (1.35V Product)

240Pin DDR3 LDIMM												
Org.	Density	Part Number	Speed	Raw Card	Composition	Comp. Version		Internal Banks	Rank	PKG	Height	Avail.	NOTE
2G x 72	16GB	M386B2G70DM0	YH9/K0	C(4Rx4)	DDP 1G x 4 * 36 pcs	2Gb	D-die	8	4	78 ball FBGA	18.75mm	2Q'11	
4G x 72	32GB	M386B4G70BM0	YH9//K0		DDP 2G x 4 * 36 pcs	4Gb	B-die	4				2Q'11	

5. RDIMM RCD Information

5.1 RCD Identification in JEDEC Description in Module Label

5.2 Label Example

5.3 RCD Information

- Example

Voltage	Vendor	Revision	Module P/N	JEDEC Description On Label
1.5V	Inphi	LV GS02 C0	M393B5170EH1-CH9	4GB 2Rx4 PC3-10600R-09-11-E1-P1
		UVGS02	M393B5270DH0-CK0	4GB 2Rx8 PC3-12800R-11-11-B1-P2
	IDT	LV DDR3 B0	M393B5170EH1-CH9	4GB 2Rx4 PC3-10600R-09-11-E1-D2
		A1(evergreen)	M393B5270DH0-CK0	4GB 2Rx8 PC3-12800R-11-11-B1-D3
1.35V	Inphi	LV GS02 C0	M393B5170EH1-YF8	4GB 2Rx4 PC3L-8500R-07-11-E1-P1
		UVGS02	M393B5273DH0-YH9	4GB 2Rx8 PC3L-10600R-09-11-B1-P2
	IDT	LV DDR3 B0	M393B5170EH1-YF8	4GB 2Rx4 PC3L-8500R-07-11-E1-D2
		A1(evergreen)	M393B5273DH0-YH9	4GB 2Rx8 PC3L-10600R-09-11-B1-D3

6. LRDIMM Memory Buffer Information

6.1 Label Example

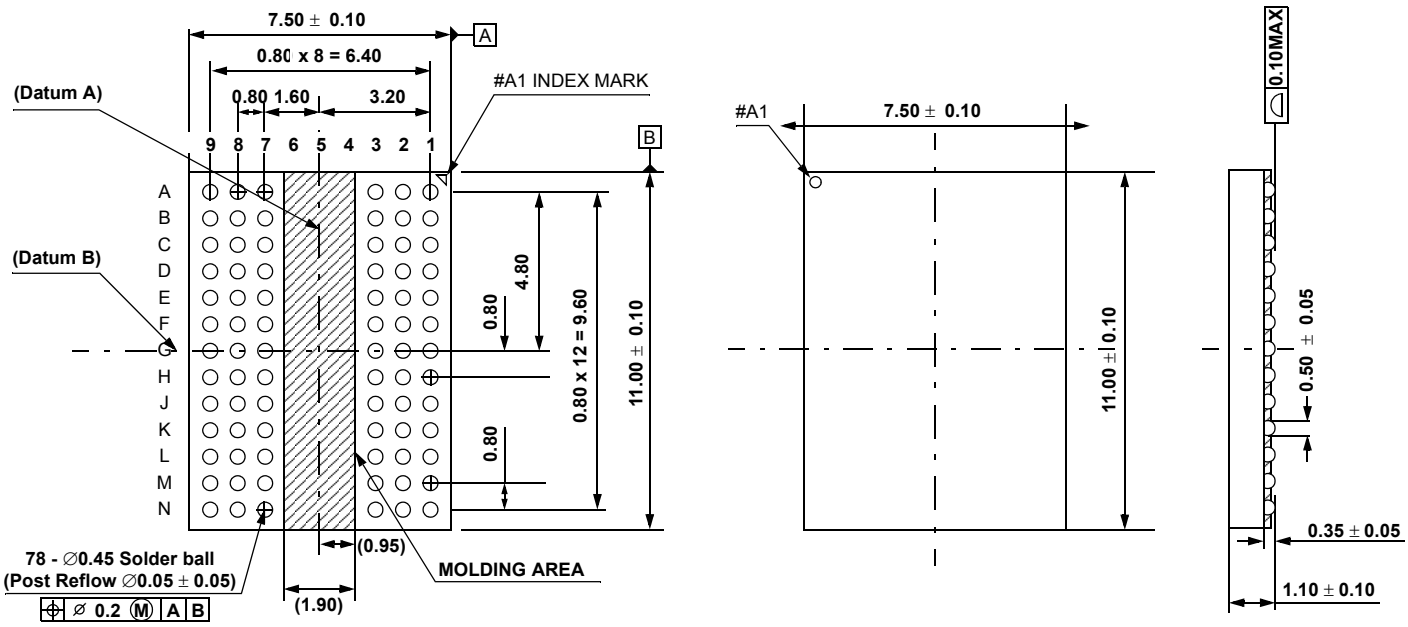
6.2 Memory Buffer Information

- Example

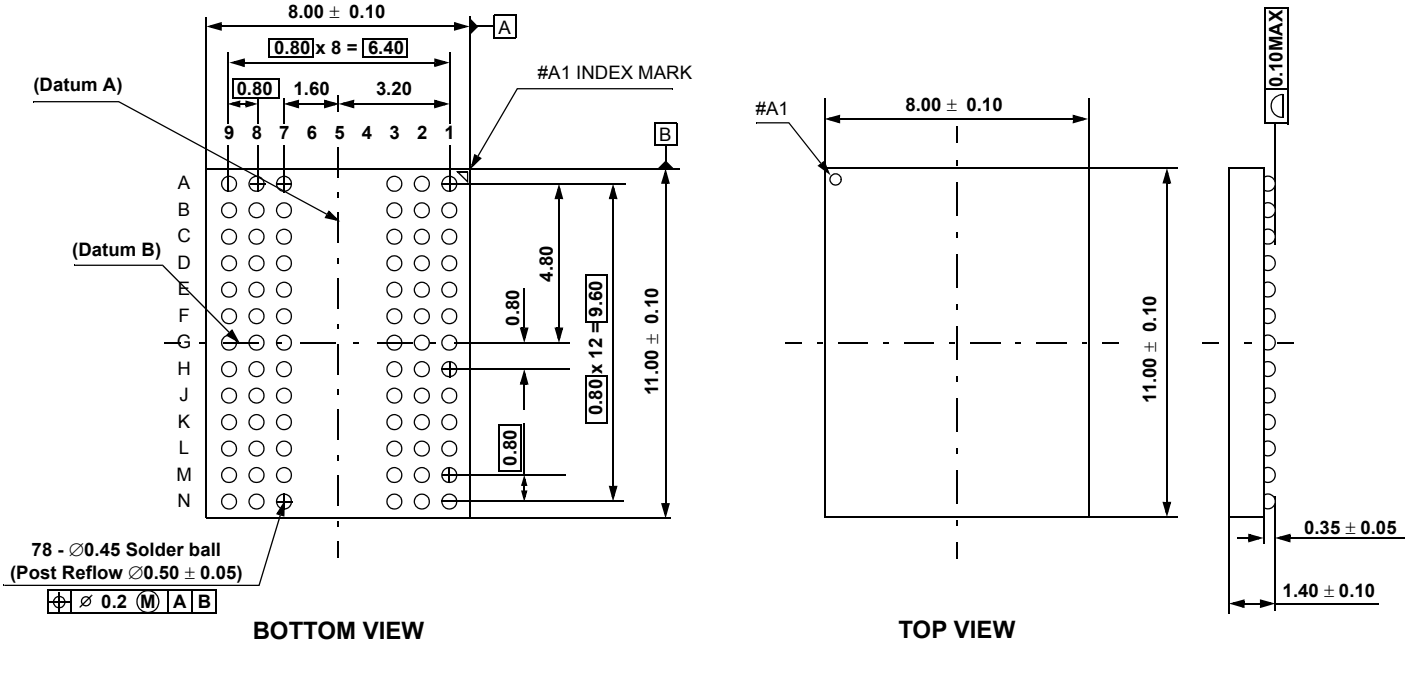
Voltage	Vendor	Revision	Module P/N	JEDEC Description On Label
1.35V	Inphi	iMB02-GS02A	M386B2K70DM0-YH90	16GB 4Rx4 PC3L-10600L-09-11-C0
	IDT	MB3 B0	M386B2K70DM0-YH91	16GB 4Rx4 PC3L-10600L-09-11-C0

7. Package Dimension

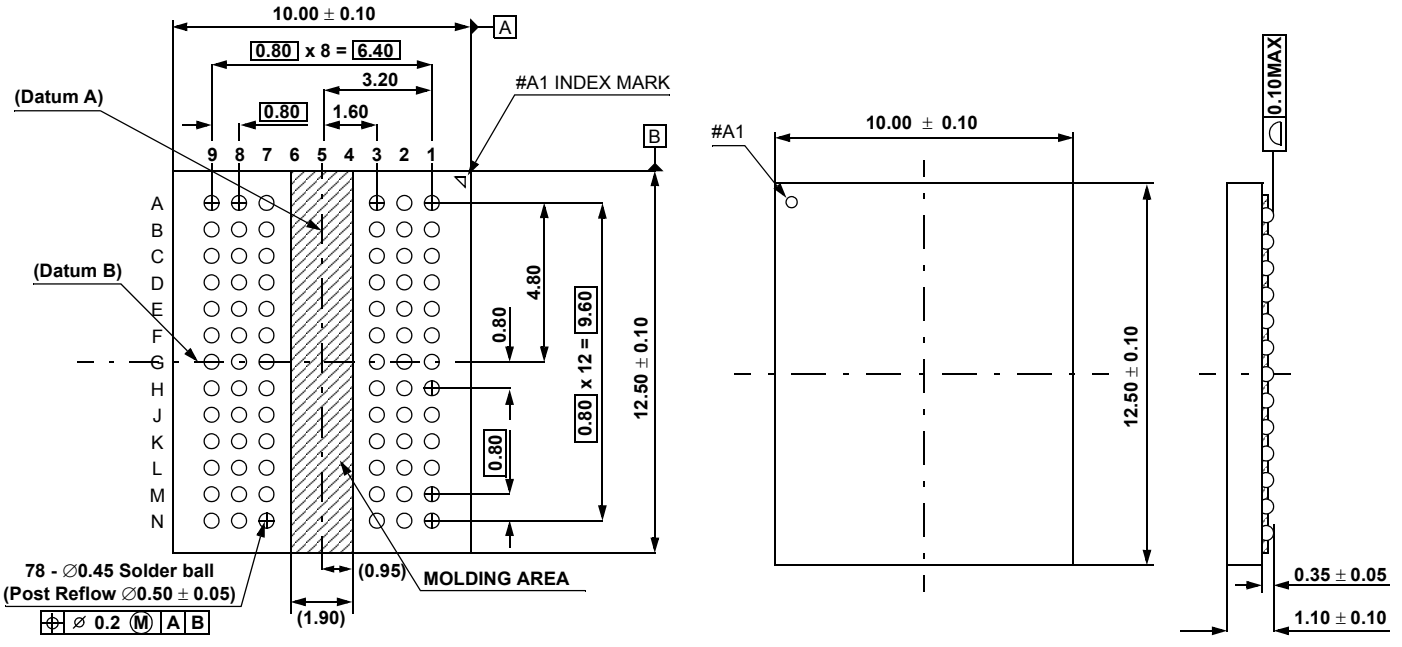
78Ball FBGA for 1Gb F-die (x4/x8) / 2Gb C-die (x4/x8) / 2Gb D-die (x4/x8)



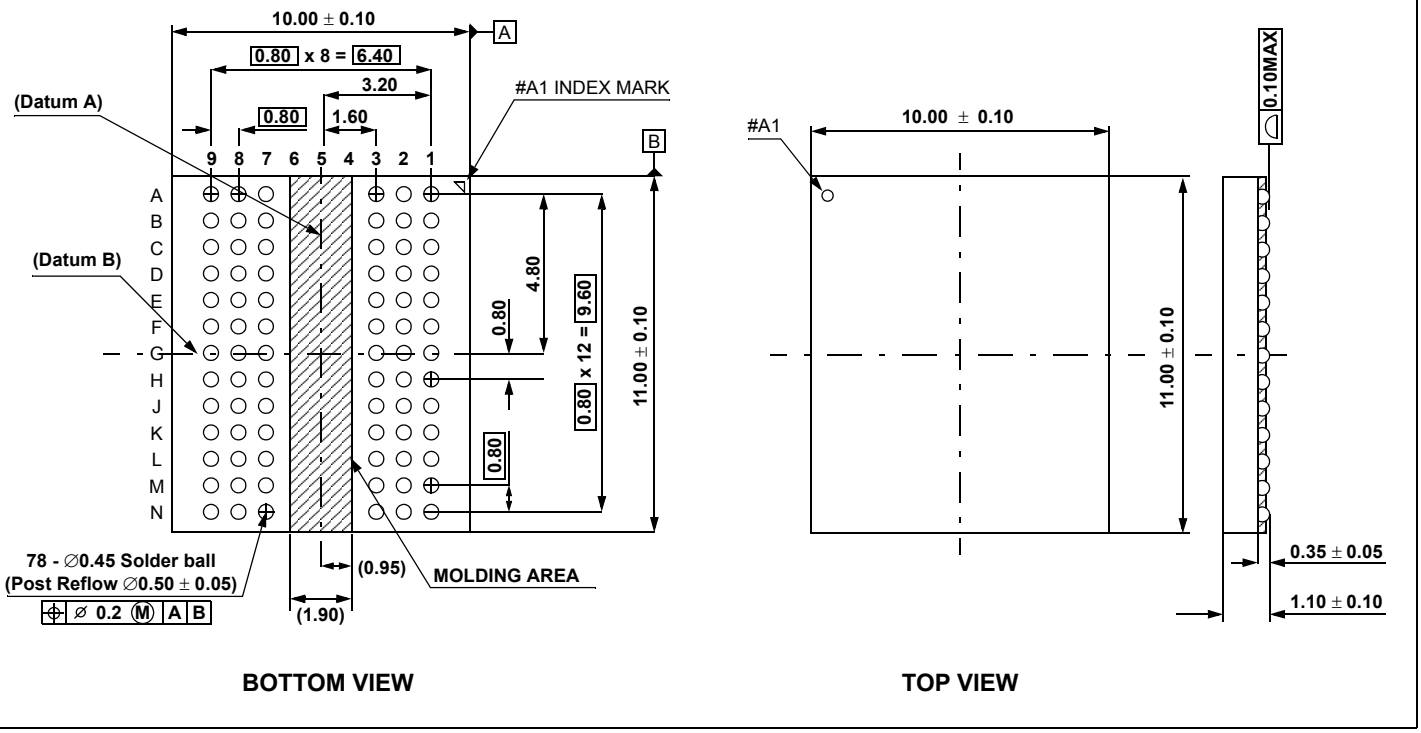
78Ball DDP for 2Gb C-die (x4/x8) / 2Gb D-die (x4/x8)



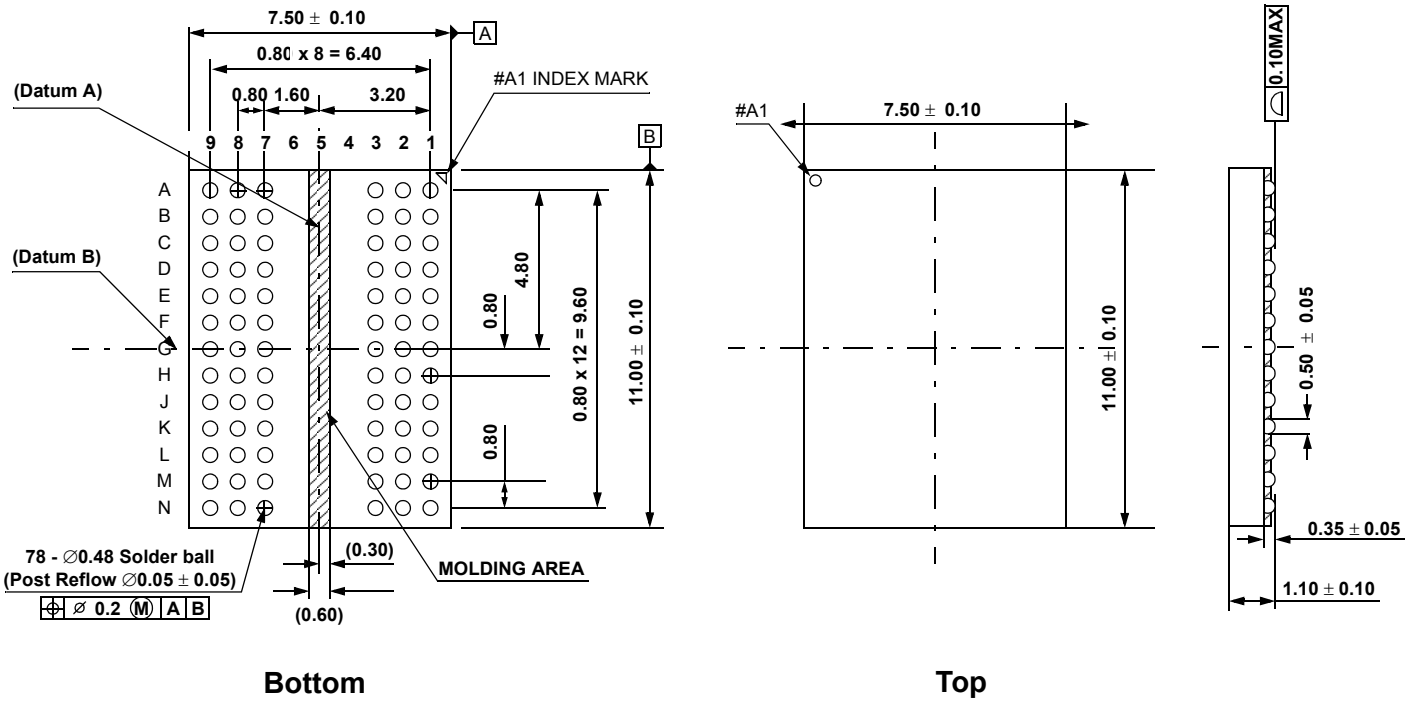
78Ball FBGA for 4Gb A-die (x4/x8)



78Ball FBGA for 4Gb B-die (x4/x8)



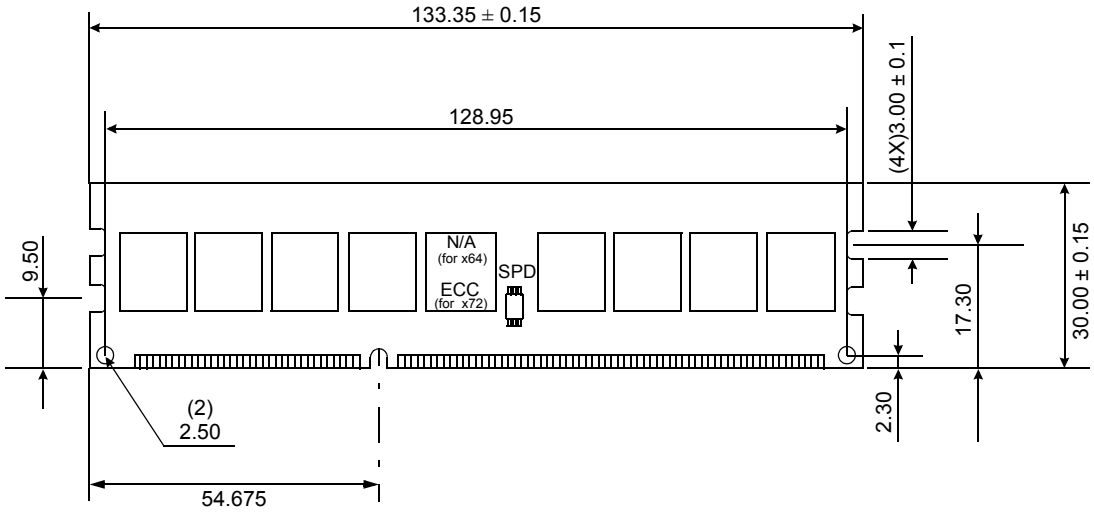
78Ball FBGA Flip chip for 1Gb G-die (x4/x8)

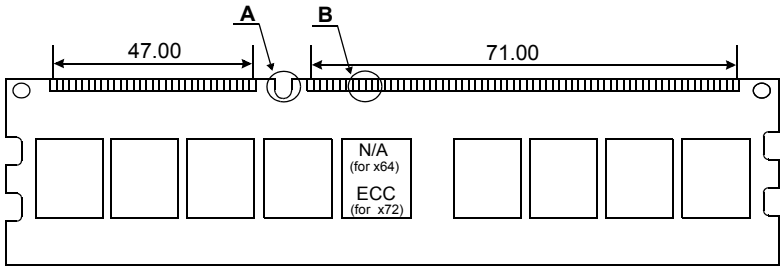


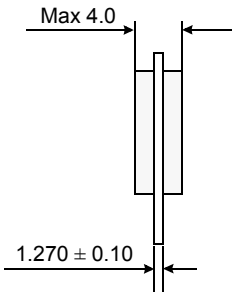
8. Module Dimension

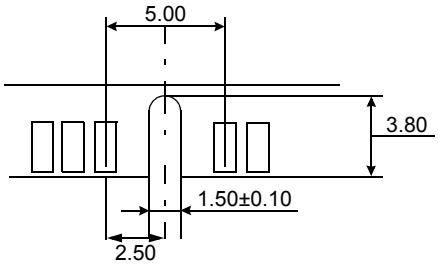
x64/x72 240pin DDR3 SDRAM Unbuffered DIMM

Units : Millimeters

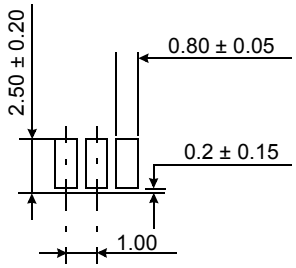




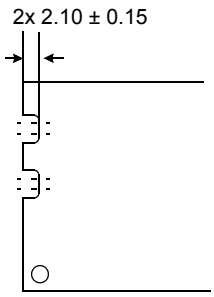




Detail A

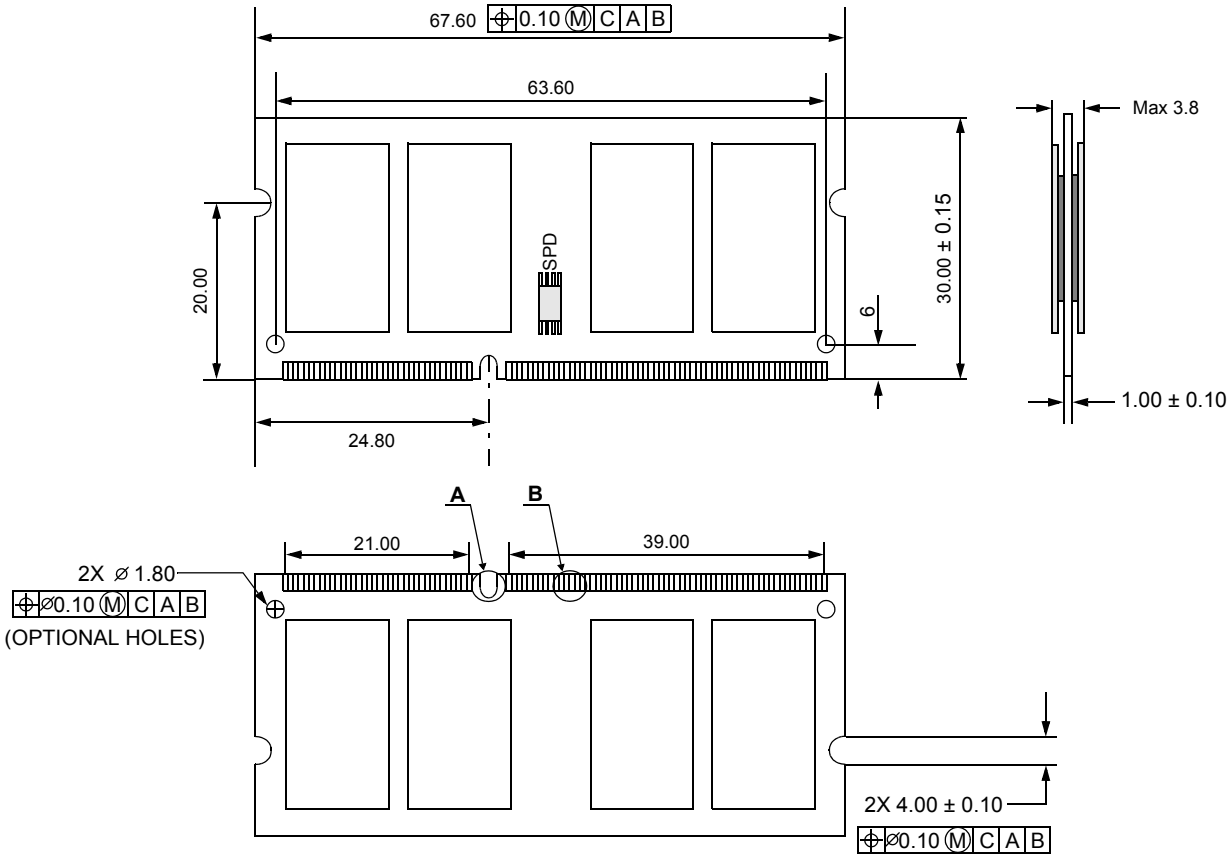


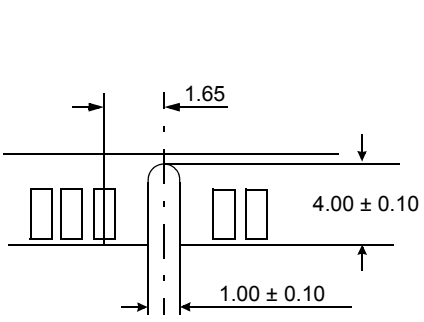
Detail B



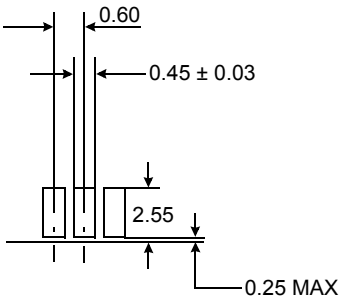
x64 204pin DDR3 SDRAM Unbuffered SODIMM

Units : Millimeters





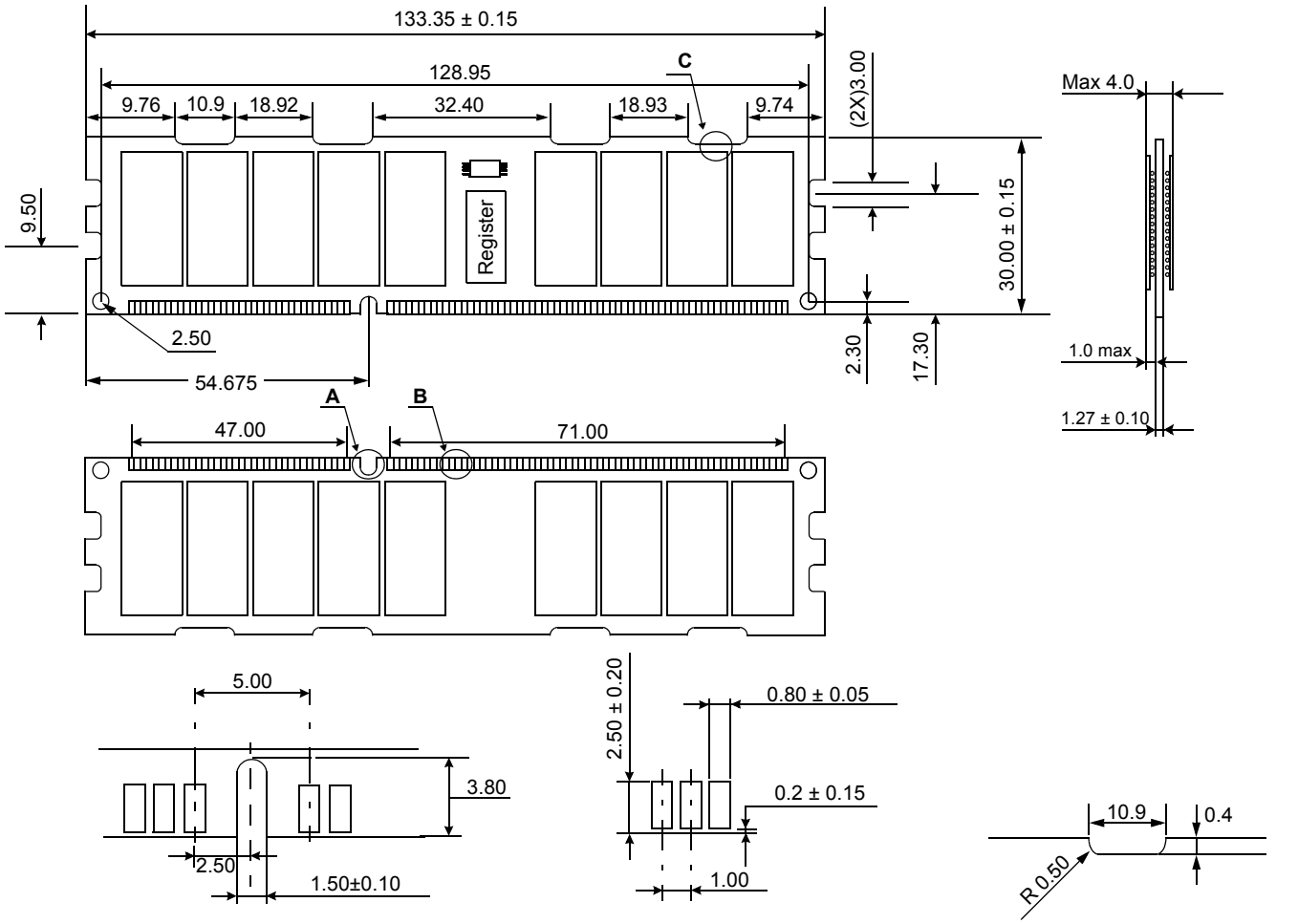
Detail A



Detail B

x72 240pin DDR3 SDRAM Registered DIMM

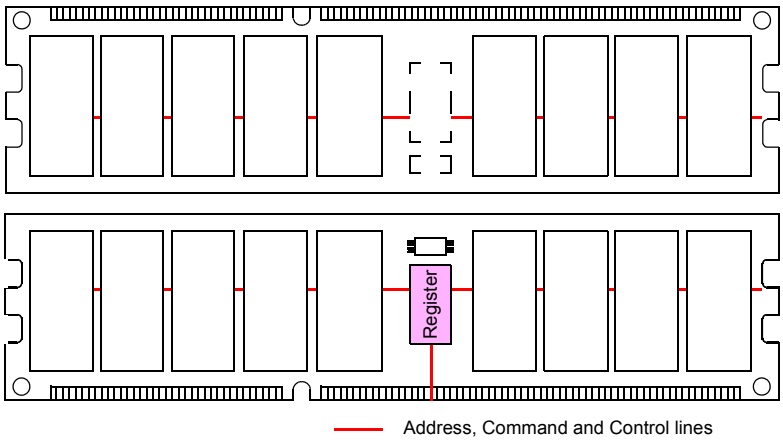
Units : Millimeters

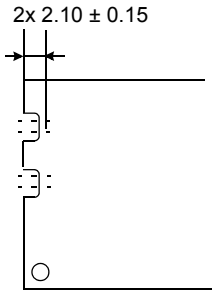


Detail A

Detail B

Detail C

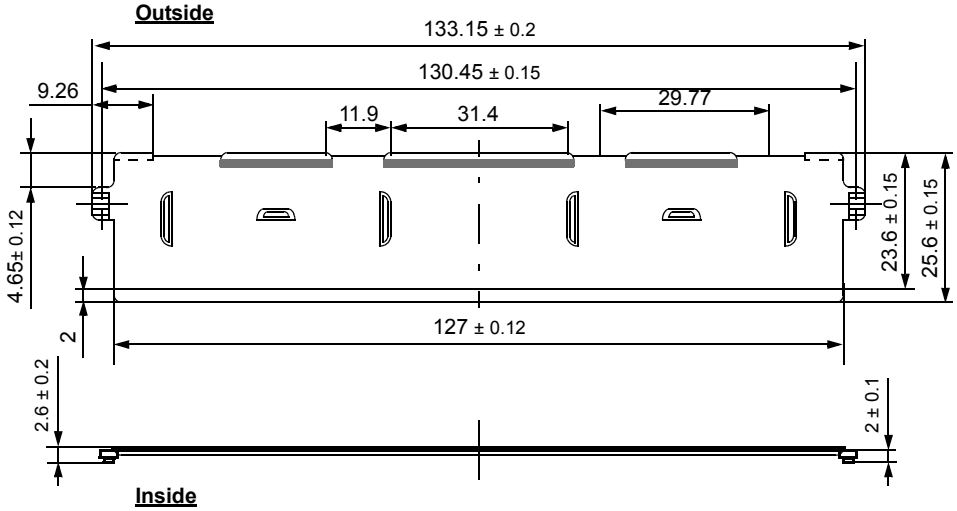


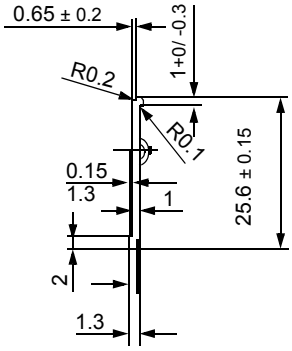


Registered DIMM Heat Spreader Design

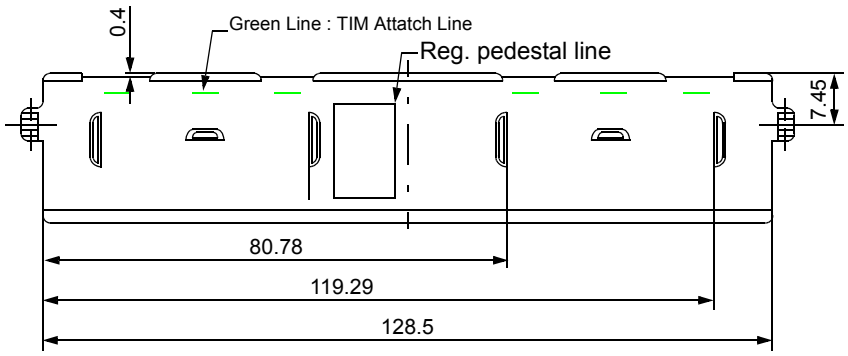
1. FRONT PART

Outside



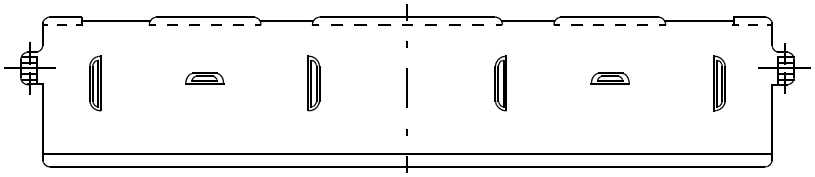


Inside

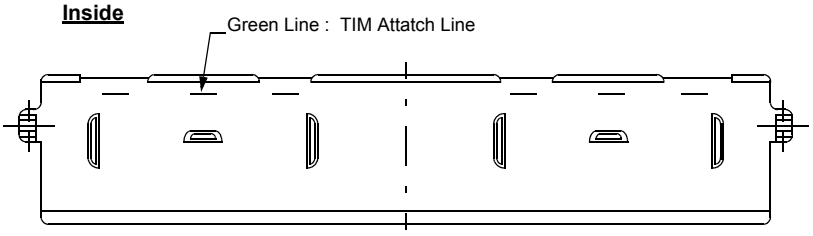


2. BACK PART

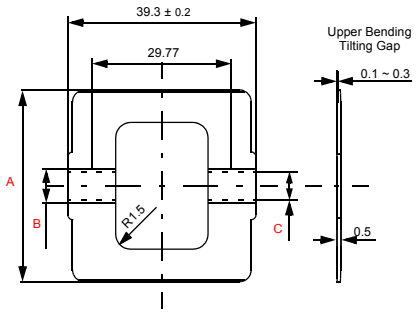
Outside



Inside

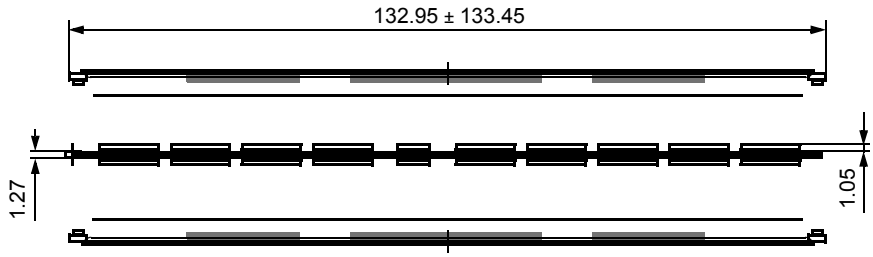


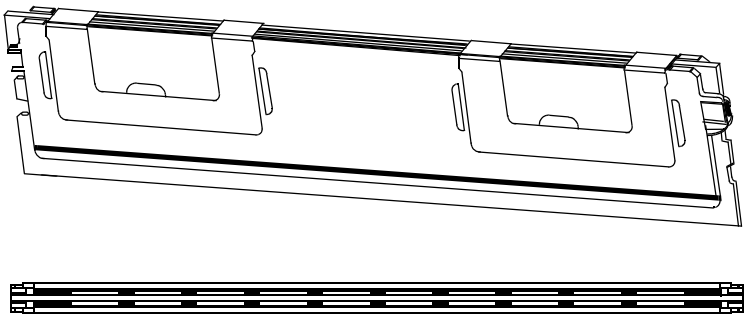
3. CLIP PART

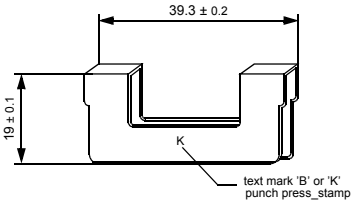


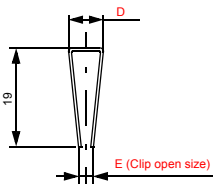
4. DDR3 RDIMM ASS'Y View

Reference thickness total (Maximum) : Mono Package : 7.55mm, DDP Package 7.71mm (With Clip thickness)



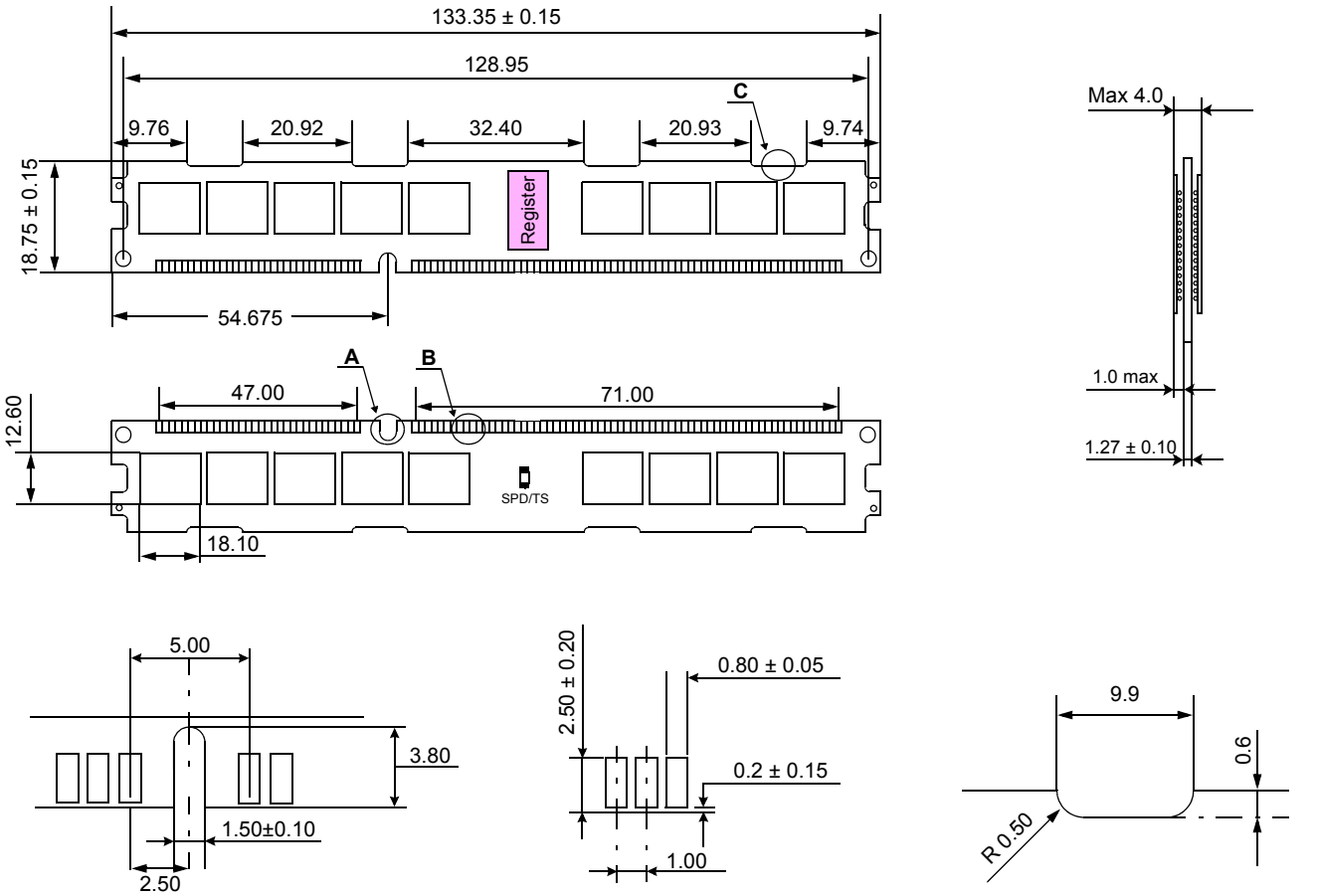






x72 240pin DDR3 SDRAM VLP Registered DIMM

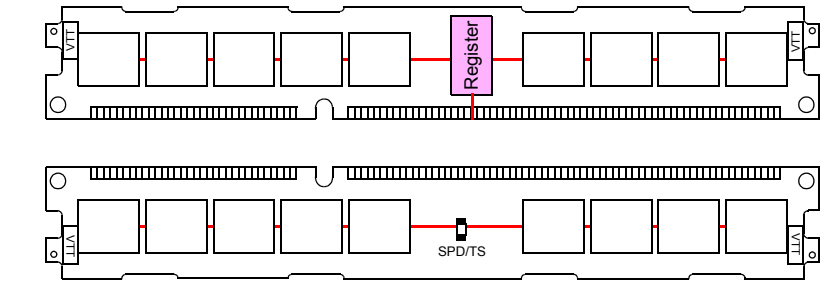
Units : Millimeters



Detail A

Detail B

Detail C

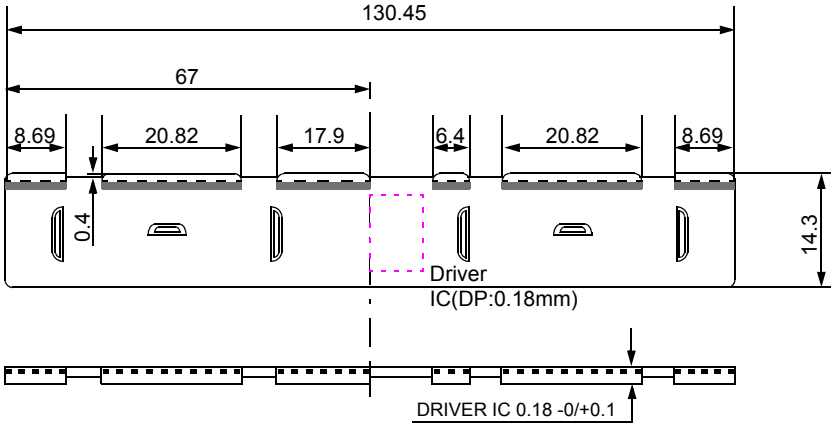


Address, Command and Control lines

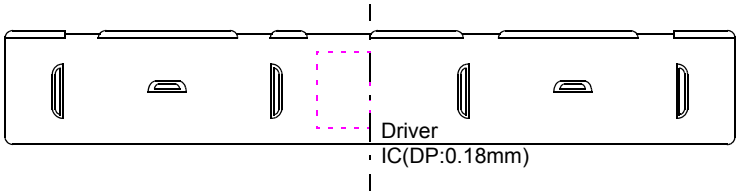
VLP Registered DIMM Heat Spreader Design

1. FRONT PART

Outside

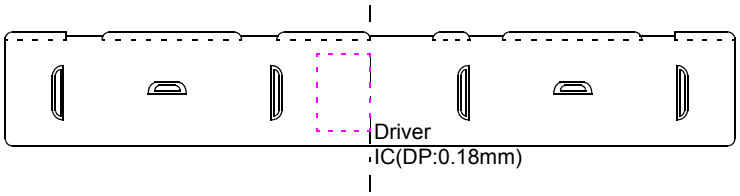


Inside

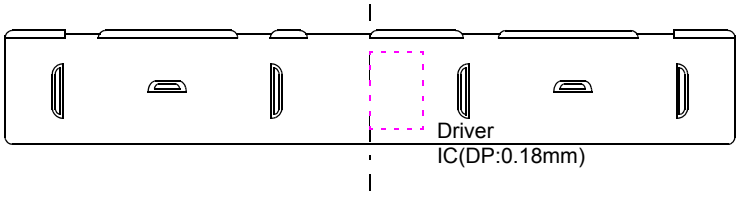


2. BACK PART

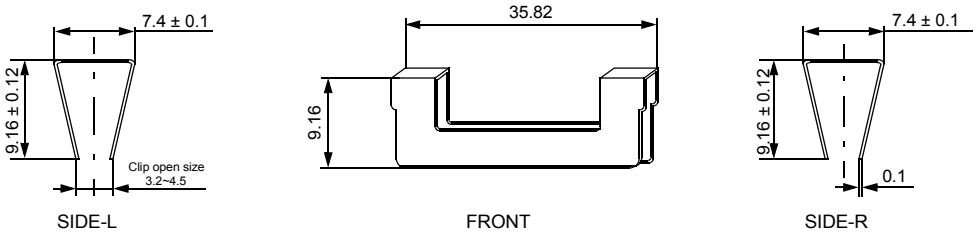
Outside



Inside

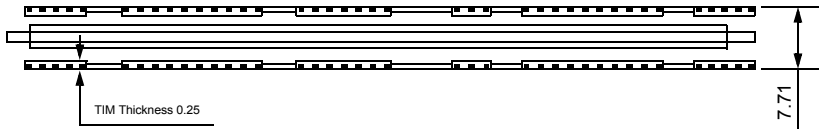


3. CLIP PART



4. ASS'Y VIEW

Reference thickness total (Maximum) : 7.71 (With Clip thickness)



* Dimension Index

	Mono			DDP			Note
	Min.	Typ.	Max.	Min.	Typ.	Max.	
A	-	43.9	-	-	44.4	-	
B	6.7	6.8	6.9	7.2	7.3	7.4	
C	-	5.8	-	-	6.3	-	
D	6.7	6.8	6.9	7.2	7.3	7.4	
E (Clip open size)	2.5	-	3.6	2.6	-	3.8	